

Benefits of Multimodal Transportation on Public Health and Social Equity

Department of Rail and Public Transportation Steering Committee on Multi-Modal and Public Space Design Guidelines

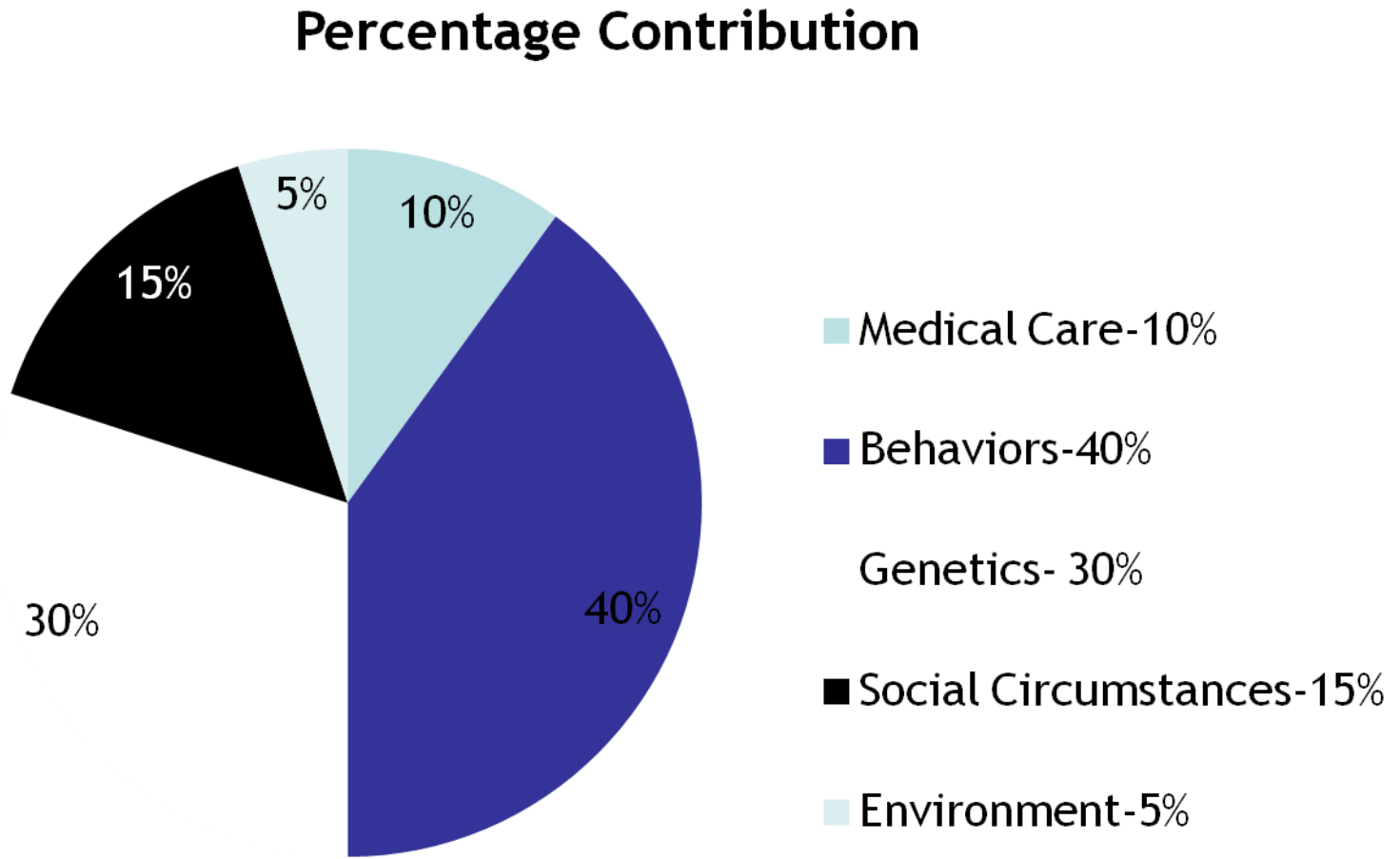
Michael O. Royster, MD, MPH
Director, Office of Minority Health and Health Equity
Virginia Department of Health

Health

The presence of complete physical, mental, and social well-being and not merely the absence of disease.

-World Health Organization

Major Determinants of Public Health



Social Determinants of Health (SDOH)

“The complex, integrated, and overlapping social structures and economic systems that include the social environment, physical environment, and health services and structural and societal factors that are responsible for most health inequities. SDOH are shaped by the distribution of money, power and resources which are themselves influenced by policy choices.”

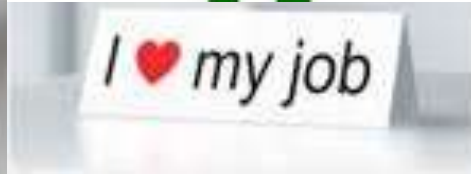
-Centers for Disease Control and Prevention (CDC)

LIVE





WORK



Worksite
PROGRAMMING IN
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ECONOMIC TIMES *Wellness*

TUESDAY | JUNE 8, 2010

FLORIAN GARDENS | EAU CLAIRE, WI

College graduates earn over 70 percent more on average than those with only a high school diploma—that's an average of \$1 million more over a lifetime.



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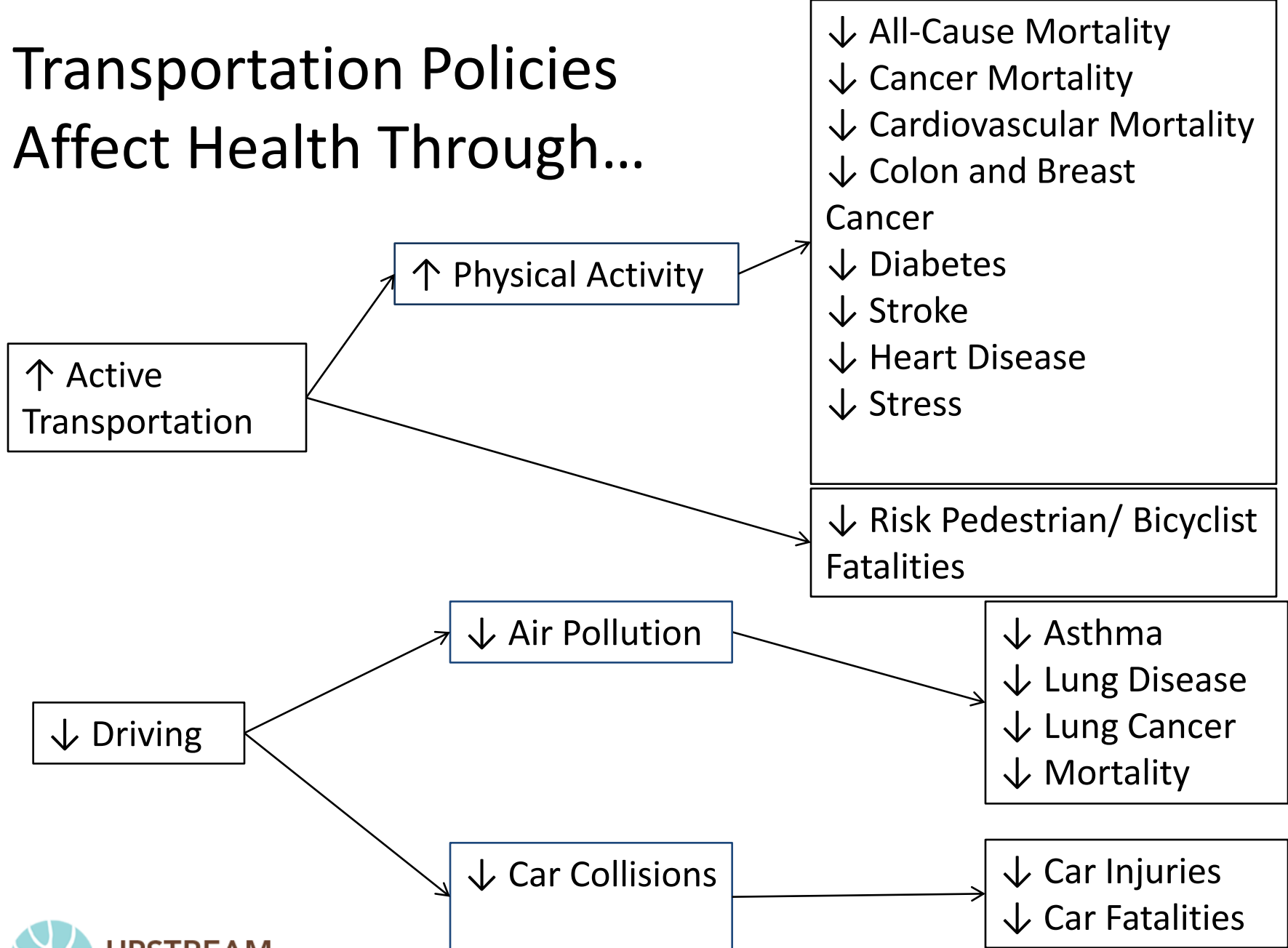




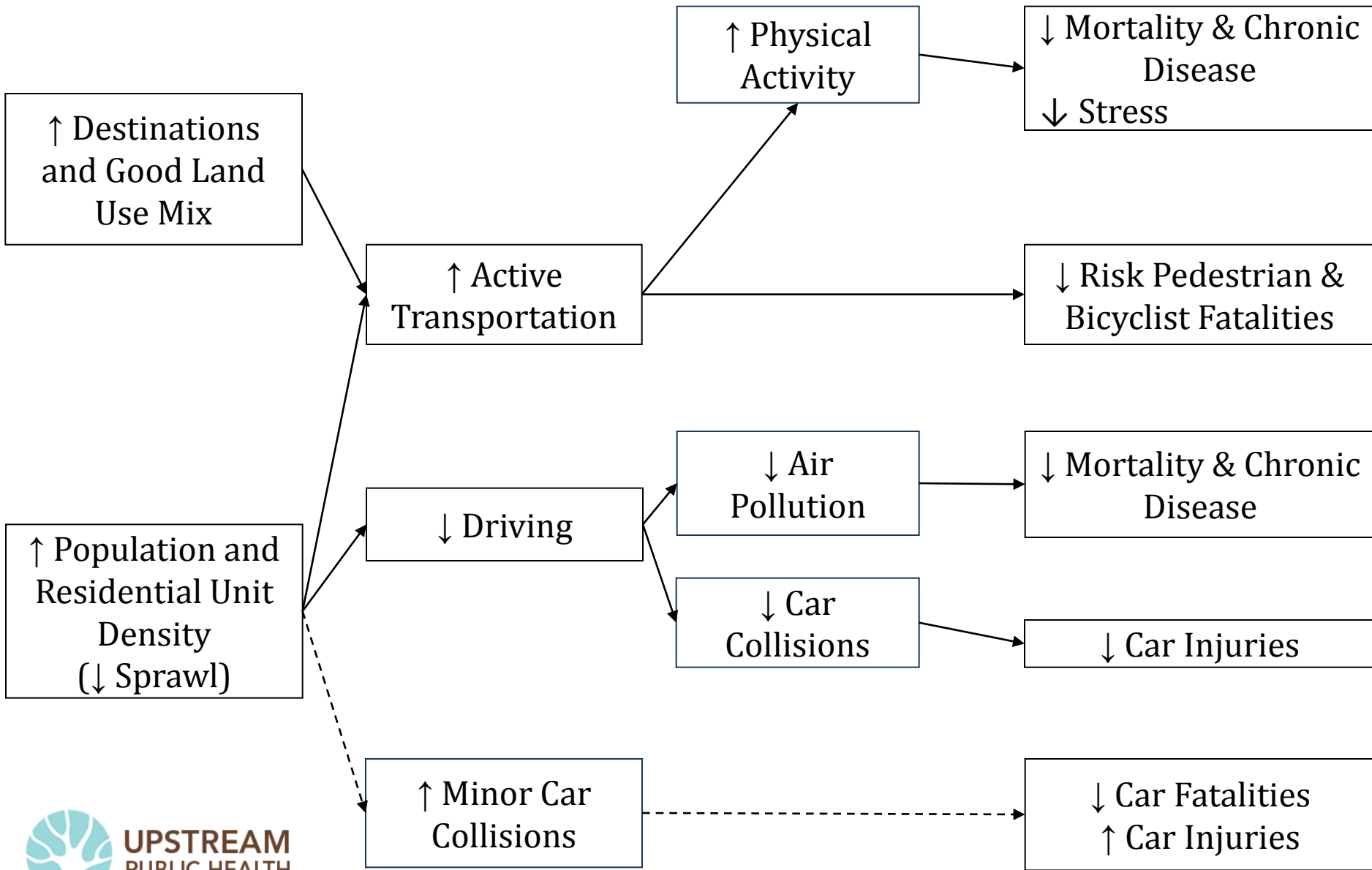
Transportation



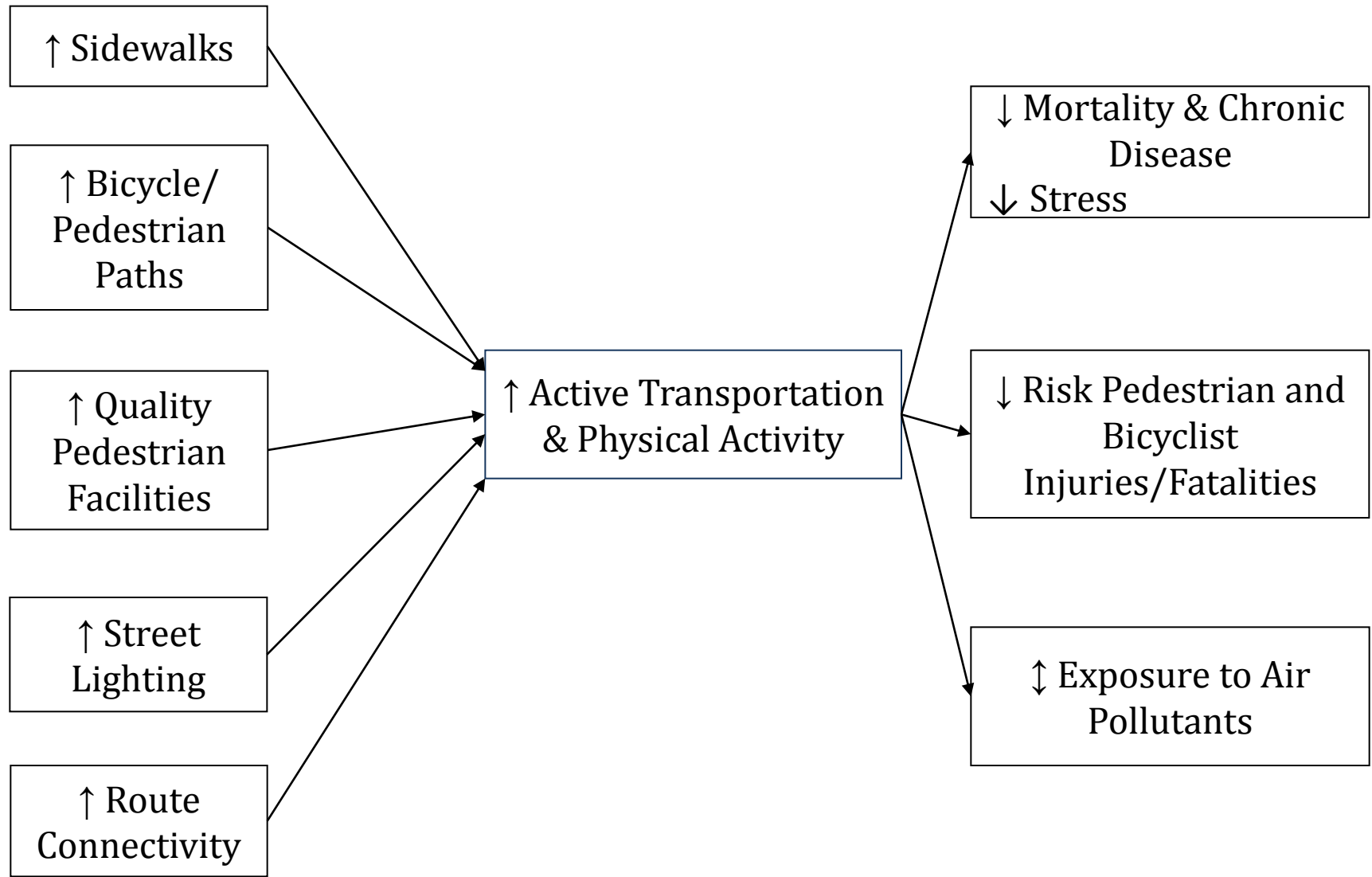
Transportation Policies Affect Health Through...



20-Minute Neighborhoods & Health



Pedestrian/Bicycle Infrastructure & Health



Transit Access & Health

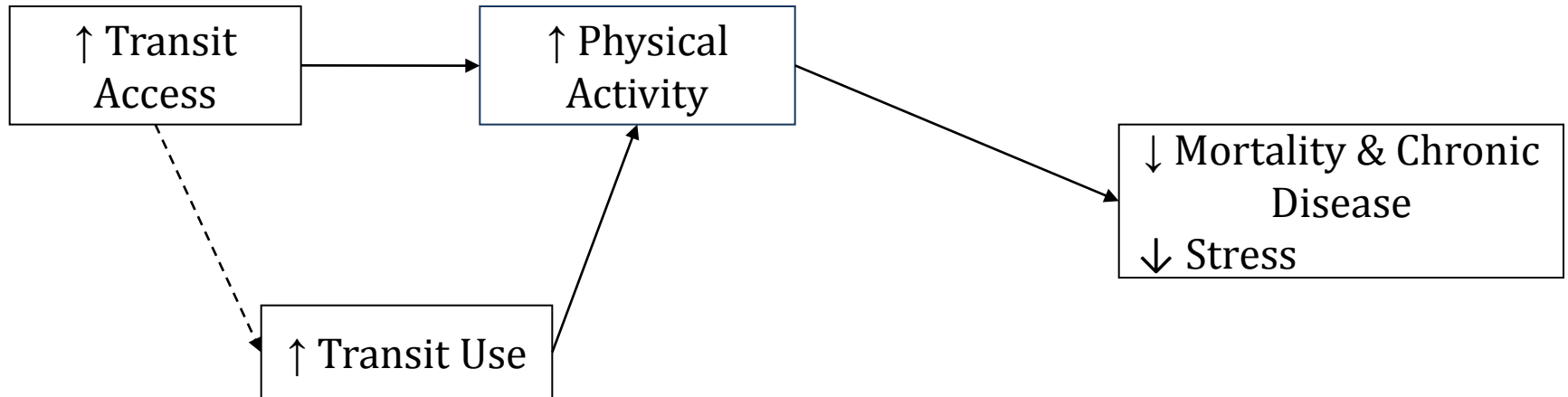


TABLE 2

THE COST OF TRANSPORTATION-RELATED HEALTH OUTCOMES

The consequences of inactivity, obesity, exposure to air pollution, and traffic crashes in the U.S. are staggering when viewed in terms of cost. Fortunately, with certain policy changes, these costs are largely preventable.

The National Health Costs of...	\$\$ (Billions)	Estimate Includes	Source
Obesity and overweight	\$142	<ul style="list-style-type: none"> Healthcare costs Lost wages due to illness & disability Future earnings lost by premature death 	<p>National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases. Statistics Related to Overweight and Obesity: The Economic Costs.</p> <p>Available at: http://win.niddk.nih.gov/statistics/index.htm</p>
Air pollution from traffic	\$50-80	<ul style="list-style-type: none"> Health care costs Premature death 	<p>Federal Highway Administration. 2000. Addendum to the 1997 Federal Highway Cost Allocation Study Final Report, May 2000.</p> <p>Available at: www.fhwa.dot.gov/policy/hcas/addendum.htm</p>
Traffic crashes	\$180	<ul style="list-style-type: none"> Healthcare costs Lost wages Property damage Travel delay Legal/administrative costs Pain & suffering Lost quality of life 	<p>AAA. Crashes vs. Congestion? What's the Cost to Society? Cambridge, MD: Cambridge Systematics, Inc.; 2008.</p> <p>Available at: www.aaanewsroom.net/assets/files/20083591910.crashesVscongestionfullreport2.28.08.pdf</p>

All cost estimates adjusted to 2008 dollars.

Source: Hidden Health Costs of Transportation. American Public Health Association

Transportation Disadvantage and Health Equity

A diverse crowd of people walking on a city street, representing racial and ethnic minorities. The image shows a mix of ages and ethnicities, with some individuals in the foreground wearing distinctive headwear like a rainbow-striped headwrap and sunglasses. The background is filled with more people, creating a sense of a busy, multicultural urban environment.

Transportation Disadvantage and Health Equity- Racial/Ethnic Minority

Source: Steven Raphael and Alan Berube, "Socioeconomic Differences in Household Automobile Ownership Rates: Implications for Evacuation Policy," paper prepared for the Berkeley Symposium on "Real Estate, Catastrophic Risk, and Public Policy," March 23, 2006, <http://urbanpolicy.berkeley.edu/pdf/raphael.pdf>.



Transportation Disadvantage and Health Equity- Rural

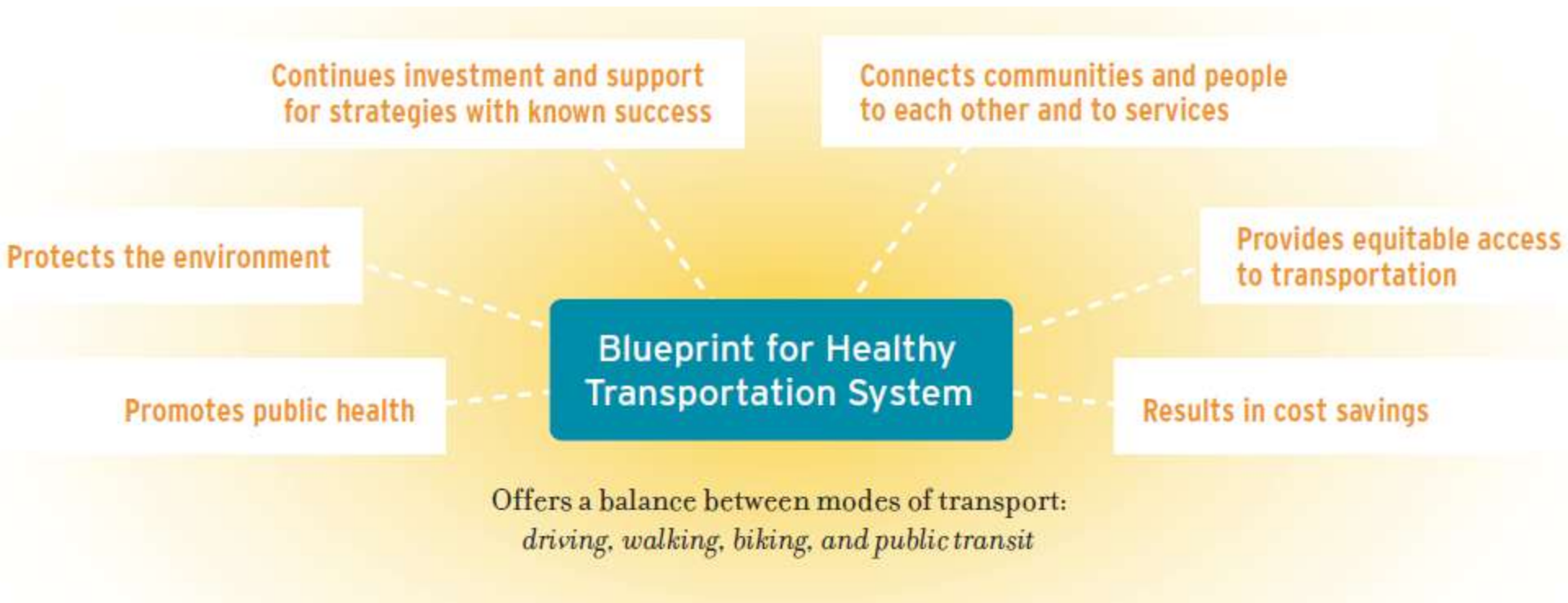
“Realizing the Potential: Expanding Housing Opportunities near Transit,” Reconnecting America’s Center for Transit Oriented Development, 2007, <http://www.reconnectingamerica.org/public/reports?page=2>

Transportation Disadvantage and Health Equity- 65 Years and Older

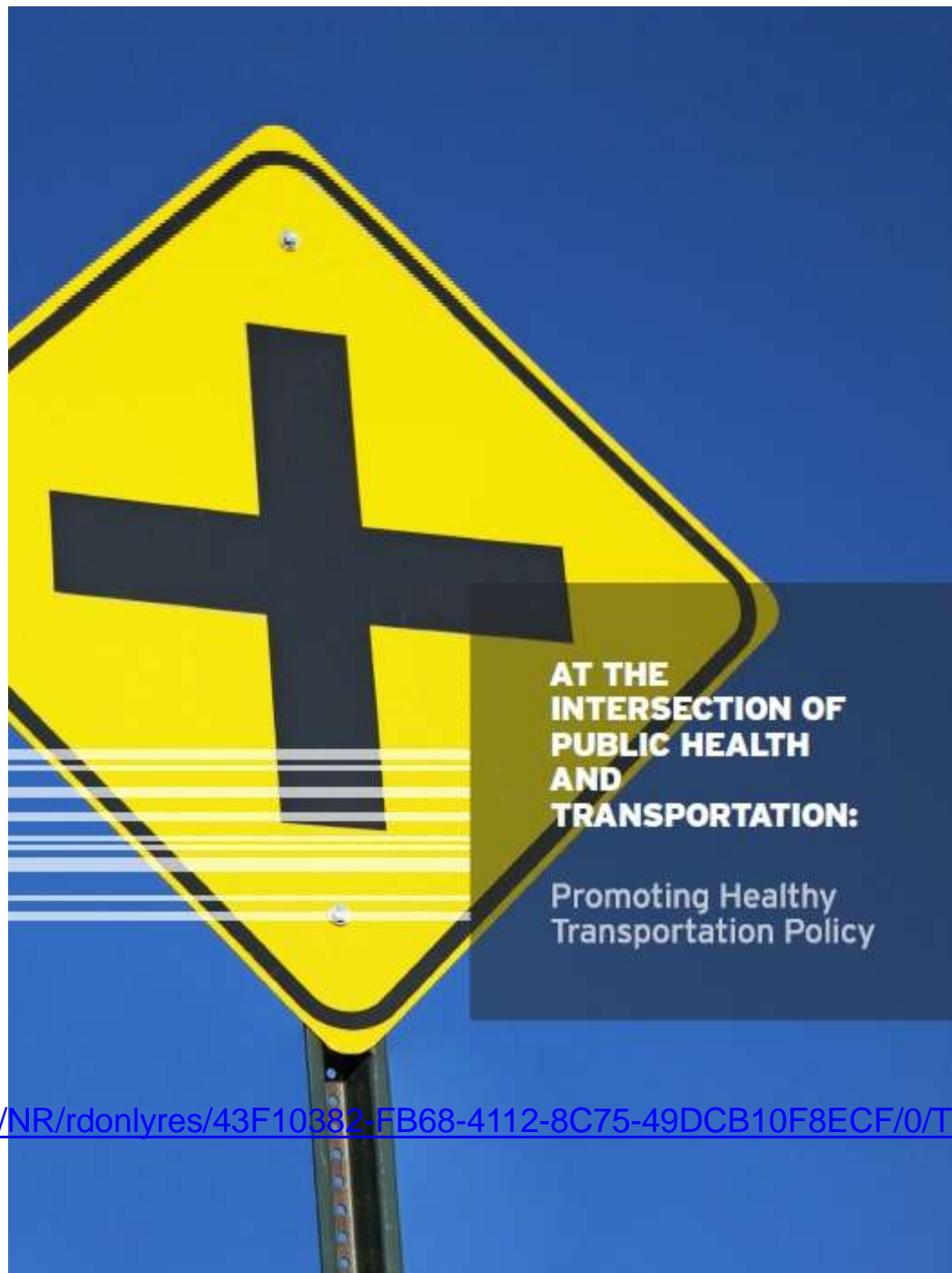


A man with dark hair and glasses, wearing a light blue t-shirt and dark pants, is seated in a black wheelchair on a paved path. He is positioned in profile, facing right, with his hands resting on his hips. The wheelchair has large black wheels and a smaller front wheel. In the background, there is a wooden bench, a grassy area, and a large, leafy tree. The scene is brightly lit, suggesting a sunny day.

Transportation Disadvantage and Equity- Disability



Source: At the Intersection of Public Health and Transportation: Promoting Healthy Transportation Policy, American Public Health Association.



<http://www.apha.org/NR/rdonlyres/43F10382-FB68-4112-8C75-49DCB10F8ECF/0/TransportationBrief.pdf>

the transportation prescription



**BOLD NEW IDEAS FOR HEALTHY, EQUITABLE
TRANSPORTATION REFORM IN AMERICA**

http://www.policylink.org/atf/cf/%7B97C6D565-BB43-406D-A6D5-ECA3BBF35AF0%7D/transportationRX_final.pdf



**UPSTREAM
PUBLIC HEALTH**

TRANSPORTATION HEALTH EQUITY PRINCIPLES

WHO IS IMPACTED BY TRANSPORTATION INEQUITY?

People of color, people experiencing poverty, people with disabilities, and people who experience language barriers are disproportionately impacted by burdens of the transportation system but do not receive an equal share of the benefits. In this document, we will refer to these groups of individuals as 'impacted communities' or 'impacted persons'.

<http://www.upstreampublichealth.org/currentwork/transportation/THPrinciples>

1

Ensure equal access to essential goods & services, jobs & economic opportunities, and healthy foods & places.

Examples that support this principle include:

- Complete streets policies that meet the needs of all users, including pedestrians, bicyclists, public transit riders, children, older adults, and people with disabilities.
- Inclusionary zoning policies and transit-oriented development incentives to connect jobs to attainable housing and reduce commute times, congestion, and air pollution.

2

Engage & empower impacted communities early & often, with opportunities to have real influence during all stages of decision-making.

Examples that support this principle include:

- Engaging transit-dependent groups in public processes, particularly for decisions about fares, service, and accessibility; budget for participant compensation.
- Outreach strategies, materials, and events that are tailored to the language, culture, media, location, and physical abilities of impacted communities.

3 Implement transportation funding & investment policies that address historical disinvestment for impacted persons and for underserved neighborhoods.

Examples that support this principle include:

- Road-pricing policies, such as tolls or fees, which do not disproportionately burden low-income communities or limit access to goods, services, and opportunities.
- Increasing access to car sharing, carpooling, and other programs that limit the cost of car ownership for people who have few transportation options.

4 Promote access to jobs, including in the transportation sector.

Examples that support this principle include:

- Prioritizing transportation investments that create jobs and economic opportunities for communities experiencing high unemployment and poverty rates.
- Prioritizing investment in education, training, and employment opportunities for groups traditionally underrepresented in the transportation sector.

5

Prioritize transportation investments that ensure healthy & safe communities.

Examples that support this principle include:

- Shifting the unjust balance of expensive, highway-dominated transportation investments to safe, reliable, and efficient alternatives that support impacted communities.
- Using Health Impact Assessments to evaluate how transportation planning and projects will impact health equity.

6

Adopt transportation policies that promote environmental justice & sustainability.

Examples that support this principle include:

- Strengthening and enforcing measures to improve air quality and reduce exposure to vehicle emissions, especially in impacted communities.
- Considering cumulative environmental impacts of past land use and transportation decisions in new plans and projects.

Tools to Support Healthy Transportation Policy

Health Impact Assessment

*How does the proposed
project, plan, policy*

affect

Democratic process
Housing
Air quality
Noise
Safety
Social networks
Nutrition
Parks and natural space
Private goods and services
Public services
Transportation
Social equity
Livelihood
Water quality
Education

*and lead to
health outcomes*

Health Impact Partners

<http://www.cdc.gov/healthyplaces/hia.htm>

HIA Topics

HIA can evaluate many types of projects, plans, policies

Land use plans	Housing developments, revitalization plans
Transportation plans	New transit stations, roadway expansions, new rail lines
Health planning	Menu labeling
Comprehensive or specific area plans	Guides for future development
City, state, or national policies	Labor, education, incarceration, immigration

Health Impact Partners

HEALTH IMPACT ASSESSMENT ON TRANSPORTATION POLICIES IN THE EUGENE CLIMATE AND ENERGY ACTION PLAN

<http://www.upstreampublichealth.org/sites/default/files/HIAEugene.pdf>

*A collaborative project of Upstream Public Health, the City of Eugene
Office of Sustainability, Community Health Partnership: Oregon's Public
Health Institute, and Lane County Public Health.*

August 2010



PHOTO: FOR BARRING



PHOTO: BUCKLE UP EUGENE.COM

ABOUT THIS PROJECT

This project examines the health benefits and negative impacts of transportation recommendations within the Eugene Climate and Energy Action Plan (CEAP). It examines seven objectives within the CEAP and summarizes the scientific evidence that links those policies to health issues in Eugene. Those health issues include injuries and chronic cardiovascular and respiratory diseases and will be impacted by the CEAP objectives through changes in collision rates, physical activity, and air pollution.



Healthy Corridor for All

A Community Health Impact Assessment
of Transit-Oriented Development Policy
in Saint Paul, Minnesota



http://www.policylink.org/site/c.lkIXLbMNJrE/b.7841971/k.7BB/The_Healthy_Corridor_for_All_Health_Impact_Assessment.htm



SUMMARY

Healthy Development Measurement Tool

A comprehensive evaluation metric to consider health needs in urban development

[Home](#)[Introduction](#)[The Tool](#)[HDMT Instructions](#)[Application Resources](#)[About ...](#)

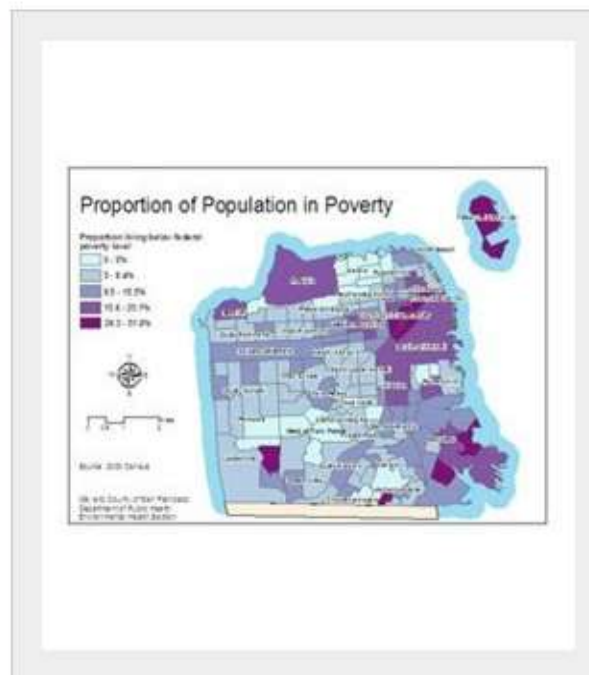
Recent News

2011-12-20 The HDMT is undergoing an update!

Over the next few months, the HDMT Community Health Indicators will be updated with new data from local sources and the US Census. Be on the lookout for new data!

Visit the [HDMT News Archive](#).

<http://www.thehdmtool.org/>



Get Started...

- Begin with an [introduction](#) or download a [helpful presentation](#) (PDF).
- [Use the Tool](#).
- [Access Community Health Indicators](#).
- [Download Healthy Development Checklist](#).
- Check out [SF neighborhood data](#).
- Access HDMT [resources](#).

The Tool

The **Healthy Development Measurement Tool** is a comprehensive evaluation metric to consider health needs in urban development plans and projects. The HDMT explicitly connects public health to urban development planning in efforts to achieve a higher quality social and physical environment that advances health.

Who We Are

We're committed to assessing urban environmental conditions and responding to health inequities and environmental policy gaps using health impact assessment methods. We're the [San Francisco Department of Public Health, Program on Health Equity and Sustainability](#).

Be sure to [contact us](#) with any questions or comments.

MODEL *for*
DESIGN
MANUAL

LIVING STREETS

Los Angeles County 2011



KING COUNTY EQUITY IMPACT REVIEW TOOL

REVISED OCTOBER 2010

<http://www.kingcounty.gov/exec/equity/toolsandresources.aspx>

Contacts for questions about use of this tool:

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Sandy Ciske sandra.ciske@kingcounty.gov



King County

Health Opportunity Index

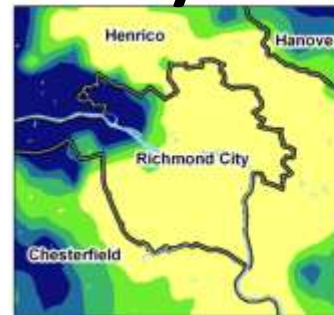
Indicator	Meaning
Affordability	Housing & transportation costs relative to income
Education	Enrollment & Attainment
Job Participation	Percent of 16-64 yo. employed or looking for work
Townsend Deprivation	Percent unemployed; no car; rental; crowding
Income Diversity	Diversity of incomes
Racial Diversity	Diversity of races
EPA air toxics	Cancer risk, respiratory risk and neurological risk
Local Commute of Workers	Ratio of in to outflow of workforce
Population Churning	In & out migration relative to total population
Population Density	Control for population concentration

<http://www.vdh.virginia.gov/healthpolicy/2012report.htm>

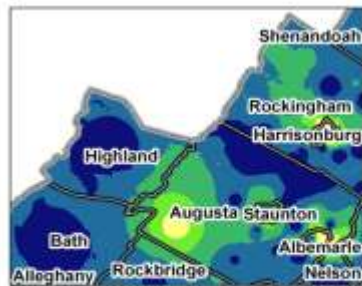
Health Opportunity in Virginia



Virginia
Health Opportunity Index (HOI)
Inverse Distance Weighted (IDW)
(spatial correlation that is used to explain variation on the surface)



Virginia
Health Opportunity Index (HOI)
Inverse Distance Weighted (IDW)
(spatial correlation that is used to explain variation on the surface)



High HOI
Low HOI



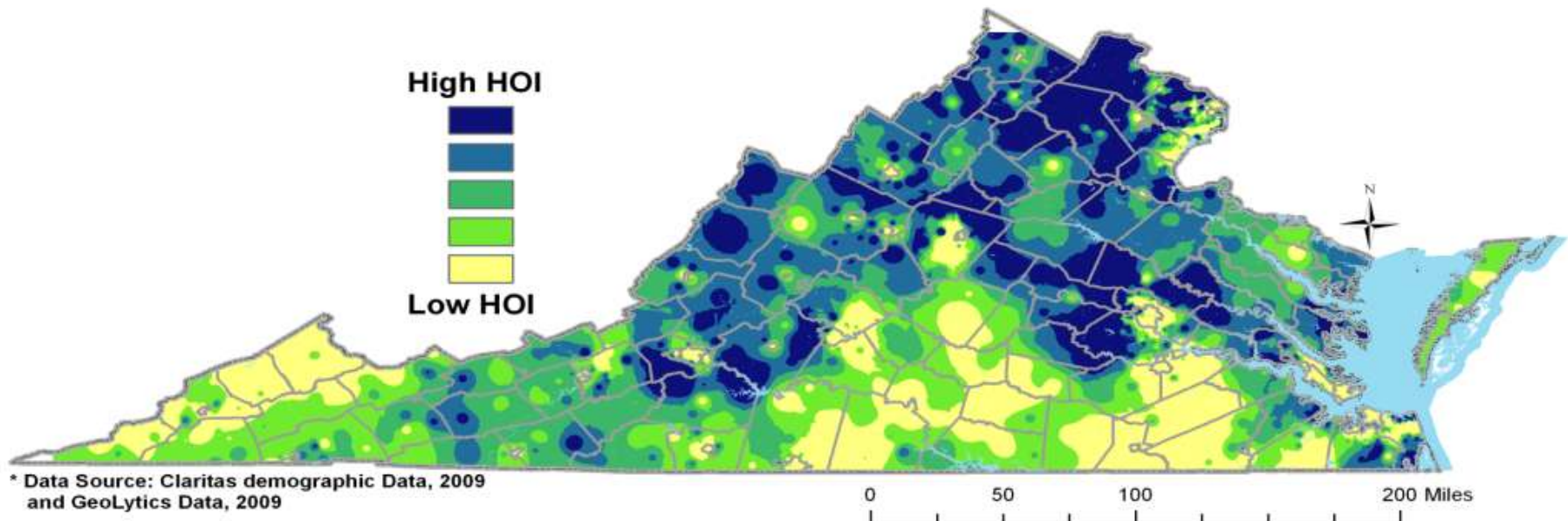
High HOI
Low HOI



* Data Source: Claritas demographic Data, 2009 and GeoLytics Data, 2009

* Data Source: Claritas demographic Data, 2009 and GeoLytics Data, 2009

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* Data Source: Claritas demographic Data, 2009 and GeoLytics Data, 2009

Move upstream for the greatest impact

Neighborhood, city, county, regional level	Strip mall, transit node	Intersection, school route
--	-----------------------------	-------------------------------



Upstream

*Influence the
overarching vision,
policies &
standards*



Midstream

*Interject healthy
design into slated
projects*



Downstream

*Retrofit
yesterday's
mistakes*



American Planning Association

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- Research Planning Research Center
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Using Our Community Hub

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HEALTH

The work of the Planning and Community Health Research Center advances communities that reduce the impact of the built environment on residents' health.

Planning and Community Health Research Center

Obesity, Food deserts, Accessibility, Transportation alternatives. The way a community is planned — its land development patterns, transportation options, or community design — bears heavily on the health of those living there. By working closely with policy makers, public health professionals, environmental health scientists, transportation engineers, educators, and other community members and experts, planners work to create healthier communities, eliminating adverse conditions and building better places for everyone to live, work, and play.

APA's Planning and Community Health Research Center is dedicated to integrating community health issues into local and regional planning practices by advancing a program of research, outreach, education, and policy.

Download the National Centers for Planning brochure (pdf)

Our work advances healthier policies and planning practices through:

Research Working with a global network of research fellows and partner

News

Food Policy Councils: Briefing Paper

In response to concerns about food deserts, obesity rates, agricultural lands loss, declining farmer population, and environmental problems, many places are forming food policy councils (FPCs).

Healthy Sustainable Food Systems Principles

The American Dietetic Association, American Nurses Association, American Public Health Association, and APA met to develop a set of shared food system principles.

For leaders in applied policy

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Harvard School of Public Health

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Home > research > health and transportation policy forum

ITPF Home

Factors Associated with Bicycle and Pedestrian Investments

Safe Routes to School

Collaborators

Links and Resources

Health and Transportation Policy Forum

Welcome

The Health and Transportation Policy Forum is a resource for advocates, scientists, policy makers, and members of the general public who are interested in the intersections between transportation planning and health. The site provides information about research on the use of transportation policy-making to promote healthy communities.

Public health is of increasing concern to planners nationwide. Research suggests the built environment significantly impacts levels of physical activity and health.

"Active living" integrates physical activity into daily routines. These routine activities could include walking or bicycling for transportation, exercise or pleasure, playing in the park, and even taking the stairs.

Federal transportation funding is an important source of support for bicycle and pedestrian infrastructure. Federal funding supports improvements in the built environment; understanding how funding is distributed and used is particularly relevant to transportation planning.



VIRGINIA DEPARTMENT OF HEALTH
Protecting You and Your Environment



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Updated: 19-Oct-2011

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Community Health Services

Enter

BACKGROUND

The Hidden Health Costs of Transportation



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